REMARKS/ARGUMENTS

Claims 1, 3-6, 8-10, 20, 22-25, 27-29 and 39-41 are currently pending in the present application and all stand rejected. Claim 41 has been amended to change the phrasing of the claim and no new matter is added thereby. Applicants respectfully traverse the current rejections and request reconsideration in light of the following remarks.

35 U.S.C. § 101 Utility Rejections

Claims 20, 22-24, 25, and 39-41 have been rejected under 35 U.S.C. 101 as allegedly failing to be directed to statutory subject matter. Applicants respectfully traverse this rejection for the following reasons.

With regard to claim 20, the Office action in making the utility rejection appears to assert that paragraph [1056] of the present application limits the claimed apparatus of claim 20 to computer software. This assertion is categorically false. A close reading of this paragraph clearly indicates to those skilled in the art numerous alternatives and combinations that may be used to implement the disclosed means or modules, one of which could be software implementation. Paragraph [1056] makes clear that discrete hardware components may also be used, as an example, which is just one example of how the present disclosure belies the assertion in the present Office Action. Furthermore, preceding paragraph [1055] also teaches that "the various illustrative logical blocks, modules, circuits, and algorithm steps described in connection with the embodiments disclosed herein may be implemented as electronic hardware, computer software, or combinations of both." Accordingly, the claimed "means" in claim 20 may be hardware in some embodiments.

Notwithstanding, the presently claimed apparatus of claim 20 (e.g., the "means for scrambling information bits") indeed effects a physical transformation as physical bit information is scrambled with a determined scrambling sequence in accordance with a determined metric based on a subinterval of a system time. In other words, the bits, which are arranged in a certain physical sequence, are rearranged by the claimed means using a scrambling sequence in a particular manner to transform the sequence into another physical sequence. Thus, the assertion that the claimed apparatus does not include a physical transformation to "realize any of the functionality of the claimed modules" is simply incorrect and disregards the clear

import of the claim. Furthermore, this scrambling of the original bit sequence produces a useful, concrete, and tangible result; namely physically scrambling the sequence of information bits to achieve a rearranged or scrambled bit sequence. As further evidence of utility, the present disclosure teaches that scrambling of the bit sequence effects the prevention of repetitive false-alarm events due to repetitive control message contents transmitted on a control channel (e.g., F-PDCCH), as explained in paragraphs [1016] and [1040], as examples (See also M.P.E.P. §2107.III.A directing that an applicant's assertion of utility creates a presumption of utility that will be sufficient to satisfy the utility requirement of 35 U.S.C. 101). Accordingly, claim 20 is directed to statutory subject matter and possesses utility, and thus the rejection should be withdrawn.

Concerning claims 22-24, which depend from claim 20, these claims are also statutory at least due to their dependency from claim 20.

Claim 25 includes means for unscrambling information bits that effects unscrambling of a bit sequence. Accordingly, this claim is also statutory for at least the same reasoning presented above in connection with claim 20. Claims 27-29 depending from claim 25, are thus also statutory.

Concerning claims 39 and 40, these apparatus claims also include devices that effect a physical change in bit sequences (e.g., a scrambler and an unscrambler). Accordingly, these claims are also statutory for the same underlying reasons presented above.

With respect to claim 41, the Office Action asserts that "the computer-readable medium of claim 41 is comprised communication media [sic], which comprises a carrier wave." The Office Action then asserts that paragraph [1002] somehow supports this assertion. Applicants respectfully disagree.

First, paragraph [1002] merely establishes that the present disclosure relates to communication systems that transmit data wirelessly modulated on carrier waves or signals. Further, claim 41 actually relates to an apparatus, which is a computer-readable medium that causes a computer to manipulate or act upon a sequence of bit data, which may be incidentally wirelessly transmitted and modulated on a carrier wave. The claim, however, is not directed to a signal, but to a computer-readable medium encoded with a data structure that defines structural and functional interrelationships between the data structure and the medium that permit the data structure's functionality to be realized. It is noted that such a claim is indeed statutory as

recognized by the Guidelines for Computer-Related inventions made effective March 26, 1996, as well as again recognized in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (hereinafter the "Interim Guidelines") published in the Official Gazette on November 22, 2005. Thus, it respectfully submitted that this claim is statutory since it has been established that such claims are eligible for protection (See also, *In re Lowry*, 32 F.3d 1579, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994), and *In re Beauregard*, 53 F.3d 1583, 1583-84 (Fed. Cir. 1995)), as recognized in the PTO guidelines. Accordingly, the claim is statutory according to the PTO's own guidelines and the rejection should be withdrawn.

It is further noted that the present rejection possibly appears to be referring to Annex IV(c) of the Interim Guidelines, which purports that signal claims are not statutory. Claim 41 is not such a claim, however, and it cannot be casually mischaracterized as such in order to make a utility rejection. No plausible explanation is given in the Office Action of how this claim can accurately be characterized as a signal claim against the plain meaning of the claim terminology. That is, the claim includes a computer media causing a computer to scramble a bit sequence, which may be included in a modulated signal, but the claim is not actually claiming the signal. The relationship of the claimed subject matter to a signal is tangential, yet the rejection is premised on a specious and incongruous equating of the claimed "computer-readable medium" to a communication signal, resulting in what appears to be merely an expedient finding of non-statutory subject matter without proper basis and reasoning. Accordingly, the rejection of claim 41 has not actually established a *prima facie* case for a rejection under Section 101.

35 U.S.C. § 102(b) Rejections

Claims 1, 3-5, 20, 22-24, 39, and 41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by WO 97/12461 (hereinafter referred to as "Bodin" after the Inventor). Applicants respectfully traverse this rejection for the following reasons.

Claim 1 features, among other things, "determining a scrambling sequence based on a metric of system time, wherein said determining a scrambling sequence includes determining the metric based on a subinterval of a system time interval of a channel . . ." Bodin, on the other hand, teaches methods for encrypting information for purposes of authorization checks in a radio system where two or more time slots are used for the same transmission (See page 3, lines 1-6).

The encryption of Bodin does not teach "determining a scrambling sequence based on a metric of system time", contrary to the assertions in the present Office Action. Rather, Bodin teaches encryption of two sub-blocks of information B1, B2 with a pseudo-random sequence PS with EXOR operations (See page 6, lines 1-4). No "scrambling sequence" determined based on system time or a metric thereof is actually taught or even suggested by Bodin. Instead, the PS sequence in Bodin is obtained based on an ordinal number PN of a frame in which two time slots TS1 and TS2 containing respective information B1, B2 are located. An ordinal number of a frame is not equivalent to the "metric of system time."

It is noted that the "system time" of the present disclosure is a reference time referred to by base and mobile stations to stay time synchronized, and the "metric" of this "system time." In contrast, Bodin teaches obtaining sequence PS from an ordinal frame number FN, which ties determination to a relative position within in a sequence of frames or even time slots, but does not tie determination to a system time. Furthermore, the referenced teaching in Bodin (i.e., page 7, lines 6-10 and 23-26) concerning modification of the frame ordinal number FN in dependence on an ordinal number of relevant time slots (e.g., TSn), still ties the PS sequence determination to position or order (thus the term "ordinal") of where these time slots occur in a frame, and is not actually a "metric of system time."

Moreover, since Bodin does not teach a metric of system time for determining, it is clear that Bodin also fails to teach or suggest determination of such a metric "based on a subinterval of a system time interval." As discussed above, neither the ordinal frame number FN nor the ordinal numbers TSn of time slots in a frame are actually related to system time intervals, but are ordinal or position values of frames or slots within a frame. Thus, this claim element, which is related to system time intervals, also is not taught or suggested by Bodin.

It is noted that the present rejection appears to evidence a failure to understand or appreciate the consequential distinction between a "metric of system time" featured in claim 1 , which may be expressed in units of slots, and using an ordinal slot number for use in determining a sequence as taught by Bodin. The present disclosure teaches that the "metric of system time" can be expressed in units or index of slots, but it is nonetheless tied to system time as explained in paragraph [1043] of the present disclosure, as one example to assist in understanding. In contrast, Bodin simply references in which ordered number of frames information blocks with encrypted information will be found, with additional modification still based on the ordering or

positioning in a frame. Importantly, Bodin in teaching ordinal or positional references, does not teach or suggest that the PS sequence determination be based a system time, and indeed would actually teach away from doing so. Thus, the teaching of Bodin in this regard is quite different from the present claimed features, and not in any way equivalent to the claimed features of claim 1.

Based on at least the reasons above, claim 1 is not anticipated by Bodin, and the rejection should be withdrawn, accordingly. Concerning dependent claims 3-5, these claims are also believed allowable over Bodin at least due to their dependency from claim 1, as well as on their merits.

It is noted that independent claims 20, 39, and 41 also contain similar claim elements to those discussed above with respect to claim 1. Accordingly, these claims are believed allowable over Bodin for at least the same reasons presented above. Also, dependent claims 22-24, which depend from claim 20, are also believed allowable over Bodin at least due to their dependency from claim 20, as well as on their merits.

35 U.S.C. § 103(a) Rejections

Claims 6, 8-10, 25, 27-29, and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatenable over Dent (EP 0446194) in view of Bodin. Applicants respectfully traverse this rejection for the following reasons.

With respect to independent claims 6, 25, and 40, it is noted that each of these claims feature claimed elements of determining "an unscrambling sequence based on a metric of system, . . . [including] determining the metric based on a first subinterval of a system time interval of a channel preceding a second subinterval of the system time interval by a pre-determined number of subintervals." As recognized in the present Office Action, Dent, among other things not mentioned, fails to teach a metric of system time. To cure this noted deficiency, the present Office Action cites Bodin as teaching this feature with references to essentially the identical sections presented in the rejection of claim 1. Accordingly, it is respectfully submitted that the combination of Dent and Bodin fails to teach or suggest all of the claimed elements, since Bodin does not teach or suggest a "metric of system time," as presented above with respect to claim 1. Accordingly, for at least this reason, the rejections of claims 6, 25, and 40 should be withdrawn. Additionally, the various dependent claims 8-10 and 27-29, which depend from

claims 6 and 25, respectively, are also believed allowable over the cited references at least due to their dependencies, as well as on their merits.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: June 13, 2008

By: /Larry J. Moskowitz/
Larry J. Moskowitz, Reg. No. 42,911
858-651-4556

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5787
Facsimile: (858) 658-2502